4

32. Also alternatively, performance limitation system **34** is integrated into one of the aircraft systems **32**, such as a flight management system (FMS) or flight control system.

[0049] Referring to FIG. **3**, performance limitation system **34** may comprise one or more computers **36**. Computer **36** may comprise one or more processors **40** and one or more computer-readable memories **38** storing machine-readable instructions **42** executable by processor **40** and configured to cause processor **40** to generate one or more outputs **46**. The outputs **46** may comprise one or more signals for causing display device **14** of aircraft **10** to display one or more indicator of one or more performance limitation. The outputs **46** may also comprise one or more signals for causing one or more aircraft system(s) **32** to cause display device **14** of aircraft **10** to display one or more indicator(s) of one or more performance limitation(s).

[0050] Computer **36** may receive inputs **44** in the form of data or information that may be processed by processor **40** based on instructions **42** in order to generate output **46**. For example, inputs **46** may comprise information indicative of a non-normal event. Non-normal event information may take the form of one or more logic equations asserted by one or more of the aircraft systems **32**. Alternatively, non-normal event information may take the form of a checklist, whether manually generated by pilot or co-pilot input or automatically generated by an aircraft system **32**. Non-normal event information may correspond to the generation of the checklist or to actions and/or inputs from the flight crew in response to the checklist. Non-normal event information may also take other forms, such as an alert signal generated by anyone of the aircraft systems **32**. Performance limitation system **34** may consider any input **44** or combination of inputs **44** that it has been configured to recognize as indicative of a non-normal event. Detection of non-normal events by the aircraft is undertaken by existing aircraft systems **32** and will not be described in detail herein.

[0051] In some embodiments, inputs **44** may alternatively or in addition comprise information indicative of a reconfiguration of the aircraft **10**. Reconfiguration information comprises at least one performance limitation of at least one aircraft or system parameter. In some embodiments, reconfiguration information also acts as non-normal event information. Alternatively, reconfiguration information is received separately from non-normal event information. Computer **36** may, based on inputs **44**, generate output **46** for causing display device **14** to display one or more indicators of one or more performance limitations co-located, and/or overlaid, with the one or more aircraft or system parameters to which the one or more performance limitations apply.

[0052] Computer **36** may be part of an avionics suite of aircraft **10**. For example, in some embodiments, computer **36** may carry out additional functions than those described herein, including the management of one or more graphic user interfaces of flight deck **12** and/or other part(s) of aircraft **10**. In various embodiments, the methods disclosed herein (or parts thereof) could be performed in parts using a plurality of computers **36** or processors **40**, or, alternatively, be performed entirely using a single computer **36** or processor **40**. In some embodiments, computer **36** could be physically integrated with (e.g., embedded in) display device **14**.

[0053] Processor **40** may comprise any suitable device(s) configured to cause a series of steps to be performed by computer **36** so as to implement a computer-implemented

process such that instructions **42**, when executed by computer **36** or other programmable apparatus, may cause the functions/acts specified in the methods described herein to be executed. Processor **40** may comprise, for example, any type of general-purpose microprocessor or microcontroller, a digital signal processing (DSP) processor, an integrated circuit, a field programmable gate array (FPGA), a reconfigurable processor, other suitably programmed or programmable logic circuits, or any combination thereof.

[0054] Memory **38** may comprise any suitable known or other machine-readable storage medium. Memory **38** may comprise non-transitory computer readable storage medium such as, but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, or device, or any suitable combination of the foregoing. Memory **38** may include a suitable combination of any type of computer memory that is located either internally or externally to computer **36** such as, for example, random-access memory (RAM), read-only memory (ROM), compact disc read-only memory (CDROM), electro-optical memory, magneto-optical memory, erasable programmable read-only memory (EPROM), and electrically-erasable programmable read-only memory (EEPROM), Ferroelectric RAM (FRAM) or the like. Memory **38** may comprise any storage means (e.g. devices) suitable for retrievably storing machine-readable instructions **42** executable by processor **40**.

[0055] Various aspects of the present disclosure may be embodied as systems, devices, methods and/or computer program products. Accordingly, aspects of the present disclosure may take the form of an entirely hardware embodiment, an entirely software embodiment (including firmware, resident software, micro-code, etc.) or an embodiment combining software and hardware aspects. Furthermore, aspects of the present disclosure may take the form of a computer program product embodied in one or more non-transitory computer readable medium(ia) (e.g.; memory **38**) having computer readable program code (e.g., instructions **42**) embodied thereon. The computer program product may, for example, be executed by computer **36** to cause the execution of one or more methods disclosed herein in entirety or in part.

[0056] Computer program code for carrying out operations for aspects of the present disclosure in accordance with instructions **42** may be written in any combination of one or more programming languages, including an object oriented programming language such as Java, Smalltalk, C++ or the like and conventional procedural programming languages, such as the "C" programming language or other programming languages. Such program code may be executed entirely or in part by computer **36** or other processing device(s). It is understood that, based on the present disclosure, one skilled in the relevant arts could readily write computer program code for implementing the methods disclosed herein.

[0057] Referring to FIG. **4**, there is illustrated an example embodiment of a method **48** as performed by the computer **36** of the performance limitation system **34**. As per step **50**, a non-normal event is detected in-flight. Detection is performed by processing non-normal event information received as inputs **44** to system **34**. In some embodiments, the non-normal event information corresponds to a checklist, a checklist action item, or a logic equation asserted by one or more aircraft systems **32**. In some embodiments, step